



The Spawn Town Sabotage

Grade 10 math · Pythagorean theorem, Multi-step word problems, Square roots, Exponents · Reading level grades 7-9

Detective: _____ Date: _____

An unknown player has logged onto the community server and wreaked havoc. They flooded the main lobby, locked the communal chests, and hid a repeating command block somewhere deep underground. The Admin has called in the server's top detectives to find out who did it before the next world backup.

1. Solve each math problem. The answer is a number, and the letter beside it is what that number stands for.
2. In the clue boxes, write that letter in every box showing the same number, then read the secret clue.
3. Use each clue to cross suspects off the list. The one suspect left at the end is the culprit!

My answer: the Griefer is _____

Possible suspects

Cross off a row as each clue rules it out. The one left at the end is the culprit.

NAME	PRIMARY SERVER SKILL	GRIEFING WEAPON	ACTIVE SWING HAND	SKIN STYLE	DEFENSE ITEM
Joel	Potion Brewer	Wither Spawner	Right Hand Active	Orange Pixels	Water Buckets
Scar	Mob Summoner	Lava Placer	Right Hand Active	Brown Pixels	Water Buckets
Ranboo	Diamond Miner	Wither Spawner	Left Hand Active	Brown Pixels	Water Buckets
Dream	Redstone Master	Lava Placer	Right Hand Active	Brown Pixels	Snowballs
Tommy	Redstone Master	Ender Porter	Left Hand Active	Green Helmet	Water Buckets
Tubbo	Potion Brewer	Wither Spawner	Left Hand Active	Orange Pixels	Snowballs
Antfrost	Elytra Flier	Lava Placer	Right Hand Active	Orange Pixels	Milk Buckets
Jimmy	Potion Brewer	Ender Porter	Left Hand Active	Orange Pixels	Water Buckets
CaptainSparklez	Elytra Flier	TNT Blaster	Right Hand Active	Brown Pixels	Water Buckets
Stampy	Redstone Master	Anvil Dropper	Left Hand Active	Orange Pixels	Milk Buckets
Cleo	Elytra Flier	TNT Blaster	Right Hand Active	Brown Pixels	Snowballs
Shubble	Elytra Flier	Lava Placer	Right Hand Active	Green Helmet	Milk Buckets
Philza	Redstone Master	TNT Blaster	Left Hand Active	Brown Pixels	Water Buckets
Scott	Diamond Miner	Wither Spawner	Right Hand Active	Brown Pixels	Water Buckets
DanTDM	Mob Summoner	Wither Spawner	Right Hand Active	Orange Pixels	Snowballs
Grian	Elytra Flier	Ender Porter	Right Hand Active	Green Helmet	Snowballs
George	Diamond Miner	Wither Spawner	Left Hand Active	Orange Pixels	Water Buckets
Lizzie	Elytra Flier	Lava Placer	Left Hand Active	Green Helmet	Snowballs
BadBoyHalo	Potion Brewer	Wither Spawner	Right Hand Active	Brown Pixels	Snowballs
Mumbo	Mob Summoner	Anvil Dropper	Right Hand Active	Brown Pixels	Water Buckets
Pearl	Potion Brewer	TNT Blaster	Right Hand Active	Brown Pixels	Water Buckets

CLUE 1

To trace the suspect's server hops, we need to calculate the exact count of redstone dust used to power their massive repeater loop across three separate bases.

Solve each problem, then write its letter in every clue box that shows the same number.

68 13 87 123 111 29 87 52 87 111 51 26 87 100 5 26 68

51 111 26 34 30 5 58 29 125 100

legs 32 and 60, hypotenuse = → **T**

legs 40 and 42, hypotenuse = → **V**

legs 16 and 30, hypotenuse = → **P**

legs 10 and 24, hypotenuse = →

legs 27 and 120, hypotenuse = → **G**

legs 3 and 4, hypotenuse = → **N**

legs 60 and 63, hypotenuse = → **E**

legs 20 and 21, hypotenuse = $\rightarrow$

legs 35 and 120, hypotenuse = → **L**

legs 28 and 96, hypotenuse = → **S**

legs 20 and 48, hypotenuse = → **F**

legs 36 and 105, hypotenuse = → **R**

legs 24 and 45, hypotenuse = $\rightarrow$ **D**

legs 18 and 24, hypotenuse = → **A**

legs 5 and 12, hypotenuse = → **H**

Scratch space:

CLUE 2

Multi-step word problems

The suspect fled diagonally across a flat plains biome. By measuring how many blocks they ran north and how many blocks they ran east, we can find the exact straight-line distance of their escape route.

Solve each problem, then write its letter in the boxes to fill in the missing word.

A witness saw the villain was

R								D		C			V	E	.
52	45	37	70	63	70	53	65		53		63	45			

Steve collected 59 redstone torches in the morning and 201 redstone torches in the afternoon, then split them equally among 5 The Mining Guild. How many redstone torches did each get?

Answer: → **R**

Steve filled 8 boxes with 5 redstone torches each, then found 5 more redstone torches. How many redstone torches are there in all?

Answer: → **I**

Steve collected 125 redstone torches in the morning and 15 redstone torches in the afternoon, then split them equally among 2 The Mining Guild. How many redstone torches did each get?

Answer: → **H**

Steve earned 8 emeralds in each of 5 rounds, plus 38 bonus emeralds. Then 13 emeralds were lost. How many emeralds are left?

Answer: → **N**

Steve filled 2 boxes with 2 emeralds each, then found 49 more emeralds. How many emeralds are there in all?

Answer: → **A**

There were 228 ender pearls in all. 1 The Mining Guild used 39 ender pearls each. The other 3 The Mining Guild shared the rest equally. How many ender pearls did each of the other The Mining Guild get?

Answer: → **T**

There were 206 ender pearls in all. 21 ender pearls were set aside. The rest were shared equally among 5 The Mining Guild. How many ender pearls did each get?

Answer: → **G**

Scratch space:

CLUE 3 Square roots

We found a perfectly square wheat farm that the suspect trampled. If we can calculate the side length of this square plot from its total block area, we will uncover a hidden clue chest.

Solve each problem, then write its letter in every clue box that shows the same number.

T																				
24	11	10	21	14	19	10	13	10	14	11	16	24	10	18	15	4	8	25		
		T																		
3	16	24	10	14																

$\text{sqrt}(576) = \square \rightarrow \text{T}$	$\text{sqrt}(64) = \square \rightarrow \text{L}$	$\text{sqrt}(625) = \square \rightarrow \text{D}$
$\text{sqrt}(9) = \square \rightarrow \text{W}$	$\text{sqrt}(324) = \square \rightarrow \text{S}$	$\text{sqrt}(225) = \square \rightarrow \text{C}$
$\text{sqrt}(121) = \square \rightarrow \text{H}$	$\text{sqrt}(100) = \square \rightarrow \text{E}$	$\text{sqrt}(361) = \square \rightarrow \text{I}$
$\text{sqrt}(196) = \square \rightarrow \text{R}$	$\text{sqrt}(16) = \square \rightarrow \text{O}$	$\text{sqrt}(256) = \square \rightarrow \text{A}$
$\text{sqrt}(169) = \square \rightarrow \text{F}$	$\text{sqrt}(441) = \square \rightarrow \text{G}$	

Scratch space:

CLUE 4

Exponents

The griefer set up a mob spawner that doubles its active zombie count every minute. Calculating the exponential growth of these mobs over time will unlock the restricted admin files.

Solve each problem, then write its letter in every clue box that shows the same number.

B																			
81	32	256	100	4	625	144	49	32	729	49	343	484	512	361	100	484	32	484	
169	256	400	4	125															

$9^2 = \square \rightarrow \mathbf{B}$	$2^9 = \square \rightarrow \mathbf{L}$	$13^2 = \square \rightarrow \mathbf{F}$	$19^2 = \square \rightarrow \mathbf{S}$
$10^2 = \square \rightarrow \mathbf{W}$	$16^2 = \square \rightarrow \mathbf{O}$	$5^4 = \square \rightarrow \mathbf{H}$	$7^2 = \square \rightarrow \mathbf{I}$
$20^2 = \square \rightarrow \mathbf{U}$	$12^2 = \square \rightarrow \mathbf{A}$	$22^2 = \square \rightarrow \mathbf{E}$	$3^6 = \square \rightarrow \mathbf{P}$
$7^3 = \square \rightarrow \mathbf{X}$	$2^5 = \square \rightarrow \mathbf{R}$	$2^2 = \square \rightarrow \mathbf{N}$	$5^3 = \square \rightarrow \mathbf{D}$

Scratch space:

CLUE 5**Square roots - the last clue**

The suspect built a square obsidian vault to hide their stolen blocks. To bypass the digital lock, we must find the side length of the vault floor using its total area.

First solve each problem. Then find each answer in the numbered list below and cross that sentence out. One sentence will be left - that is exactly what the villain did!

Step 1 - solve these:

$\text{sqrt}(4) = \boxed{}$

$\text{sqrt}(9) = \boxed{}$

$\text{sqrt}(25) = \boxed{}$

$\text{sqrt}(64) = \boxed{}$

$\text{sqrt}(16) = \boxed{}$

$\text{sqrt}(144) = \boxed{}$

$\text{sqrt}(36) = \boxed{}$

$\text{sqrt}(121) = \boxed{}$

$\text{sqrt}(81) = \boxed{}$

$\text{sqrt}(49) = \boxed{}$

$\text{sqrt}(1) = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain steals the community diamonds, then drinks a speed potion.
2. The villain grieves the spawn town, then drinks a speed potion.
3. The villain breaks the nether portal, then logs off the server.
4. The villain steals the community diamonds, then hides in a deep cave.
5. The villain spawns fifty creepers, then escapes into the nether.
6. The villain grieves the spawn town, then logs off the server.
7. The villain hacks the command blocks, then flies away with an elytra.
8. The villain breaks the nether portal, then flies away with an elytra.
9. The villain grieves the spawn town, then escapes into the nether.
10. The villain steals the community diamonds, then escapes into the nether.
11. The villain hacks the command blocks, then drinks a speed potion.
12. The villain hacks the command blocks, then logs off the server.

Answer Key

The Spawn Town Sabotage

Culprit: CaptainSparklez

Elytra Flier · TNT Blaster · Right Hand Active · Brown Pixels · Water Buckets

Trail: Start 21 → Clue 1 19 → Clue 2 12 → Clue 3 5 → Clue 4 4 → Clue 5 1

Clue 1 (Pythagorean theorem): "THE GRIEFER DOES NOT DROP ANVILS"

legs 32 and 60, hypotenuse = 68 (T) · legs 40 and 42, hypotenuse = 58 (V) · legs 16 and 30, hypotenuse = 34 (P) · legs 10 and 24, hypotenuse = 26 (O) · legs 27 and 120, hypotenuse = 123 (G) · legs 3 and 4, hypotenuse = 5 (N) · legs 60 and 63, hypotenuse = 87 (E) · legs 20 and 21, hypotenuse = 29 (I) · legs 35 and 120, hypotenuse = 125 (L) · legs 28 and 96, hypotenuse = 100 (S) · legs 20 and 48, hypotenuse = 52 (F) · legs 36 and 105, hypotenuse = 111 (R) · legs 24 and 45, hypotenuse = 51 (D) · legs 18 and 24, hypotenuse = 30 (A) · legs 5 and 12, hypotenuse = 13 (H)

Clue 2 (Multi-step word problems): "RIGHT HAND ACTIVE"

Steve collected 59 redstone torches in the morning and 201 redstone torches in the afternoon, then split them equally among 5 The Mining Guild. How many redstone torches did each get? = 52 (R) · Steve filled 8 boxes with 5 redstone torches each, then found 5 more redstone torches. How many redstone torches are there in all? = 45 (I) · Steve collected 125 redstone torches in the morning and 15 redstone torches in the afternoon, then split them equally among 2 The Mining Guild. How many redstone torches did each get? = 70 (H) · Steve earned 8 emeralds in each of 5 rounds, plus 38 bonus emeralds. Then 13 emeralds were lost. How many emeralds are left? = 65 (N) · Steve filled 2 boxes with 2 emeralds each, then found 49 more emeralds. How many emeralds are there in all? = 53 (A) · There were 228 ender pearls in all. 1 The Mining Guild used 39 ender pearls each. The other 3 The Mining Guild shared the rest equally. How many ender pearls did each of the other The Mining Guild get? = 63 (T) · There were 206 ender pearls in all. 21 ender pearls were set aside. The rest were shared equally among 5 The Mining Guild. How many ender pearls did each get? = 37 (G)

Clue 3 (Square roots): "THE GRIEFER HATES COLD WATER"

$\sqrt{576} = 24$ (T) · $\sqrt{64} = 8$ (L) · $\sqrt{625} = 25$ (D) · $\sqrt{9} = 3$ (W) · $\sqrt{324} = 18$ (S) · $\sqrt{225} = 15$ (C) · $\sqrt{121} = 11$ (H) · $\sqrt{100} = 10$ (E) · $\sqrt{361} = 19$ (I) · $\sqrt{196} = 14$ (R) · $\sqrt{16} = 4$ (O) · $\sqrt{256} = 16$ (A) · $\sqrt{169} = 13$ (F) · $\sqrt{441} = 21$ (G)

Clue 4 (Exponents): "BROWN HAIR PIXELS WERE FOUND"

$9^2 = 81$ (B) · $2^9 = 512$ (L) · $13^2 = 169$ (F) · $19^2 = 361$ (S) · $10^2 = 100$ (W) · $16^2 = 256$ (O) · $5^4 = 625$ (H) · $7^2 = 49$ (I) · $20^2 = 400$ (U) · $12^2 = 144$ (A) · $22^2 = 484$ (E) · $3^6 = 729$ (P) · $7^3 = 343$ (X) · $2^5 = 32$ (R) · $2^2 = 4$ (N) · $5^3 = 125$ (D)

Clue 5 (Square roots): surviving statement is box 10 → CaptainSparklez

$\sqrt{4} = 2$ · $\sqrt{9} = 3$ · $\sqrt{25} = 5$ · $\sqrt{64} = 8$ · $\sqrt{16} = 4$ · $\sqrt{144} = 12$ · $\sqrt{36} = 6$ · $\sqrt{121} = 11$ · $\sqrt{81} = 9$ · $\sqrt{49} = 7$ · $\sqrt{1} = 1$